



AWARENESS ON PREVENTION OF CORONAVIRUS AMONG RURAL PEOPLE: AN INTERVENTION BASED FIELD STUDY

Dr.T.Chandrasekarayya,* Prof. I. V. Lalitha Kumari**

**Associate Professor, Dept. of Population Studies, S.V.University, Tirupati, A.P*

*** Professor, Department of Social Work, Sri Padmavati Mahila Visvavidyalayam, Tirupati, A.P.*

Abstract

Corona virus belongs to a family of viruses that cause various symptoms like pneumonia, fever, breathing difficulty and lung infection. The aim of the study is to assess the awareness on COVID-19 transmission, symptoms and prevention among rural people and made community intervention programme to improve the knowledge on preventive aspects of COVID-19 among the rural people. A survey-based interview schedule was prepared to assess the awareness about the transmission, symptoms and prevention of COVID-19. A semi-structured interview schedule contains questions related corona virus aspects and the responses were collected through interview method. Responses were tabulated in the form of number and percentage. The overall awareness for all subgroups was very poor. The poor percentage of correct responses was observed among the respondents and awareness was enhanced after intervention programme. It was observed that there is a need for regular interventions and educational training programs on COVID-19 for rural people.

Key Words:*Corona Virus, Transmission, Symptoms, Prevention and Intervention Programme.*

Introduction

Corona viruses are a family of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). In 2019, a new corona virus was identified as the cause of a disease outbreak that originated in China. The virus is now known as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease is called coronavirus disease 2019 (COVID-19). In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. Corona virus causes various symptoms like pneumonia, fever, breathing difficulty and lung infection (Modi et al., 2020). Middle East respiratory syndrome is also somewhat similar to the corona virus symptoms. (Almutairi, 2016) The world health organisation (W.H.O) has informed that Coronavirus affects lower respiratory tract and is later named as COVID-19. In general, senior citizens and those with underlying health conditions are at greatest risk for severe infection and death due to COVID-19. The same that make individuals more vulnerable also are associated with reduced ability to assist and understand health information, make well-informed decisions and take optimal health producing actions. WHO has recommended personal hygiene (respiratory hygiene, using face masks, washing hands with warm water and soap, use of alcohol-based hand sanitizers, avoid touching mouth, eyes & nose, cleanliness), social distancing and careful handling of purchased products as an effective preventive measure for COVID-19 disease. The growing pandemic of COVID-19 disease requires social distancing and personal hygiene measures to protect public health. But this message is not clear and well understood among people around the world, causes to increase number of cases in many countries.

A sensitive survey is to be carried out in among rural people to determine the current awareness of COVID-19, how they deal with the perception of the seriousness of its threat, their level of worry and concern related to contracting the virus, whether it is affecting their daily routine or existing working



conditions. Renyi Zhang et al (2020) identified that airborne transmission is the dominant route for the spread of COVID-19. A study by Guo, Zhou, & Liu, (2020) examined the awareness among healthcare students and professionals on COVID-19. Some latest research studies showed epidemiology, Causes, clinical manifestation, Diagnosis and control of Corona virus disease. (Cascella, Rajnik, & Cuomo, 2020 and Palati et al., 2020) found that oral dryness and increasing functional limitations make the older person more susceptible to oral diseases and other infectious diseases. The saliva is used as diagnostic tool in many oral diseases including oral cancers (Shree et al., 2019). In general many studies are conducted on awareness on prevention of covid-19 among health professionals, teachers, students and other communities. But such studies are rare from rural areas with inadequate health facilities. Hence in order to improve their awareness and knowledge on corona disease aspects, it is mandatory to conduct more interviews based surveys with an interview schedule. In this juncture, this study was conducted to determine and examine awareness about transmission, systems and prevention of corona virus among the rural people who are more vulnerable to the complications of infection because of lack of health facilities with poor sanitary conditions, poor hygiene and comorbid conditions. Thus, present study is an intervention field based survey aims at exploring the awareness on coronavirus aspects among rural people with the help of descriptive research design.

Scenario of Covid-19

Coronaviruses are zoonotic. This means they first develop in animals before being transmitted to humans. The coronavirus (COVID-19) outbreak came to light on December 31, 2019, China informed the World Health Organization (WHO) of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei province. On January 9, 2020, the WHO issued a statement saying Chinese researchers have made “preliminary determination” of the virus as a novel coronavirus. As of September 20, amid more than 30.8 million cases, the global death toll surpassed 957,000. According to the data collected, over 21 million people have recovered from the disease worldwide. Currently the entire world is experiencing the desolation and devastation of a deadly virus, the new disease of COVID-19, emerging from the new coronavirus SARS-CoV-2, has spread throughout the world, affecting more than 200 countries and hundreds of people, with discouraging morbidity and mortality figures. Once the virus develops in people, coronaviruses can be transmitted from person to person through respiratory droplets. This is a technical name for the wet stuff that moves through the air when people exhale, cough, sneeze, or talk. The viral material hangs out in these droplets and can be breathed into the respiratory tract (windpipe and lungs), where the virus can then lead to an infection. It's possible that one could acquire SARS-CoV-2 if people touch their mouth, nose, or eyes after touching a surface or object that has the virus on it. However, this is not thought Trusted Source to be the main way that the virus is passed on. SARS-CoV-2 can also be passed on via airborne transmission of small infectious particles that may linger in the air for minutes to hours. But, contraction of an infection through close contact with people with SARS-CoV-2 and their respiratory droplets is currently thought to be much more common. COVID-19 can be diagnosed similarly to other conditions caused by viral infections: using a blood, saliva, or tissue sample.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. A report shows that as on May 30, 2021, 2,80,41,314 Coronavirus Cases, 3, 29,014 deaths are reported and 2, 56,59,634 recovered in India. In Andhra Pradesh also 16,85,142 people are so far affected in Andhra Pradesh by novel coronavirus covid-19. 15,08,515 out of 16,85,142 have



recovered. Sadly, 10,832 patients have died due to coronavirus. 1,65,795 patients are still in hospital and recovering on 30th may 2021. The first case of the COVID-19 pandemic in the Indian state of Andhra Pradesh was reported in Nellore on 12 March 2020. A 24-year-old who was confirmed positive for coronavirus. The Andhra Pradesh Health department has confirmed a total of 5,37,687 cases, including 4,702 deaths and 4,35,467 recoveries, as of 10 September. The virus has spread in 13 districts of the state, of which East Godavari has the highest number of cases. At present, the coronavirus spread to rural areas also, where awareness is very poor and medical facilities are very meager. At present, coronavirus become serious health issue leading crisis by severely affecting many aspects of human life. Hence, there is urgency for research study to explore the awareness on coronavirus aspects among people of rural areas.

Review of Literature

The COVID-19 pandemic is having devastating effects on human health and well-being and will likely continue to do so through its negative impact on the economy and poverty (Parolin Z, Wimer C, 2020). The magnitude of the crisis can make it difficult to recognize the fact that individuals play an important role in slowing the spread of infection. Protective behaviors, sometimes called non-pharmaceutical interventions (NPIs), such as social distancing and hand washing are critical to limiting the spread of infectious diseases (Steel Fisher GK, et al , 2015; Moran KR, Del Valle SY , 2016 and Centers for Disease Control and Prevention, 2020). Essential workers, those who provide critical goods and services during the pandemic, often occupy low-wage positions in public transportation, food production, retail of food and health supplies, and healthcare. Protection of essential workers is particularly important given they are likely to have greater exposure to the virus and are at greater risk of financial strain if they do become infected (Ingraham C. Why Many,2020 and Tomer A, Kane JW. ,2020 and Dennerlein JT, et al, 2020). Li Z-H, Zhang X-R et al (2019) study reveals that generally, the levels of knowledge (mean: 16.3 out of 20 points), attitudes (mean: 4.5 out of 6 points), and practices (mean: 5.8 out of 6 points) related to COVID-19 were high. Only 36,373 respondents (29.4 percent) disagreed that gargling with salt water is effective in protecting against COVID-19. Moreover, older respondents had decreased levels of knowledge and practices related to COVID-19 (both P values for the trend <0.001), while better educated respondents had increased levels of knowledge and practices related to COVID-19 (both P values for the trend <0.001).WafaDhouib (2011) estimated the mean of the incubation period using meta-analysis, taking into account between-study heterogeneity, and the analysis with moderator variables. The mean and median incubation period was of maximum 8 days and 12 days respectively. In various parametric models, the 95th percentiles were in the range 10.3–16 days. The highest 99th percentile would be as long as 20.4 days. Thomas Sigler's (2021) quintile regression model suggests that globalization, settlement, and population characteristics related to high human mobility and interaction predict reported disease diffusion. Population density and population characteristics such as total population, older populations, and household size are strong predictors in early weeks but have a muted impact over time on reported COVID-19 diffusion. In contrast, the impacts of interpersonal and trade globalizations are enhanced over time, indicating that human mobility may best explain sustained disease diffusion. Ashish Kumar Singh et al (2020) study attempted to assess the awareness, threat, symptoms and its prevention among people of India about the COVID-19. The respondents have adequate awareness for COVID-19 outbreak and its preventive measures, out of total, 98 percent (513) answered that the virus spreads from one person to another, 95 percent (494) answered that the disease is caused by a virus. Eskinder Wolka et al (2020) study revealed that 95.5 percent of the participants had heard about the disease COVID-19 and realized common modes of transmission. Some participants linked the disease with resentment of God on



people or anger of God towards human kind. Importance of consuming hot drinks, ginger or garlic to prevent the disease was reported by participants. Negative attitude towards quarantine and isolation centers and stigmatizing people with a cough were documented in this assessment. Stigma and fear of isolation centers may prevent people from reporting the symptom of the disease. Manish Kaushik et al (2020) research paper aims to determine the awareness, knowledge and attitude about COVID-19 and relate the behaviour of Indian society, especially when the country is restarting all its economic activities, after the complete lockdown. Ruba M. Jaber et al (2021) study aimed to evaluate the awareness and practices of both the Jordanian and Iraqi populations during the early stages of the pandemic. More than half of the Jordanian (56.8 percent) and Iraqi participants (53.2 percent) showed average or adequate awareness about COVID-19. More than 60 percent of both populations relied on medical staff for COVID-19 related information. Social media was the second most common COVID-19 information source, as it was reported by 53.7 percent of Jordanian participants and 62.8 percent of Iraqi participants. More than 90 percent of both populations participated in precautionary measurements. Finally, about 20 percent of both populations failed to recognize droplet inhalation as a source of transmission. Despite the portrayed awareness levels, governmental involvement is warranted to increase the public's awareness and fill the gaps within their knowledge among the people.

Scope of the study

The present study covers only three villages with focus on examining the characteristics of respondents along with awareness on transmission, systems and prevention of corona virus among the rural people. The present study is an intervention based field study and represents a sample size of 90 respondents.

Objectives

1. To examine examines the awareness about transmission, systems and prevention of corona virus among the rural people
2. To create awareness about transmission, systems and prevention of corona through intervention and
3. To suggest measures for policy implications for enhancing awareness on transmission, systems and prevention of corona

Materials and Methods

The present is based on primary source of data collection. Data related to awareness about transmission, systems and prevention of corona virus among the rural people is gathered. Sample sizes of ninety rural respondents were participated in the study. The sample size is selected through simple random sampling technique. The data were collected from three villages of Penumuru Mandal, Chittoor District, Andhra Pradesh. Information was collected from the respondents with an interview method by using semi-structured interview schedule. It contains dichotomous responses and multiple choice questions. The study setting was examined and approval was given by the panel of experts from arts and science subjects, S.V.University, Tirupati, AndhraPradesh. Interview schedule contains questions on corona virus related aspects and finally the collected data were edited and entered in Excel for analysis. Data were presented in the form of number and percentages with conclusion. In this study, respondent's characteristics such as age, gender, marital status, caste, educational level, exposure to T.V and awareness on transmission, symptoms and prevention of corona virus are examined.



Results and Discussion

Table-1: Characteristics of Respondents

S. No	Characteristic	Category	Number	Percent
1.	Age Group	25 years	25	27.8
		26-50 years	45	50.0
		51 years	20	22.2
2.	Gender	Male	54	60.0
		Female	36	40.0
3.	Marital Status	Unmarried	20	22.2
		Married	57	63.3
		Widow	13	14.4
4.	Caste	Forward Caste	49	54.5
		Backward Caste	31	34.4
		Scheduled Caste	10	11.1
5.	Literacy Status	Illiterate	27	30.0
		Literate	63	70.0
5.	Occupation	Agriculture	65	72.2
		Non-Agriculture	25	27.8
6.	Access to T.V	Yes	72	80.0
		No	18	20.0
7.	Access to basic amenities	yes	55	61.1
		No	35	38.9

Source: Field Survey

Table-1 reveals the characteristic of respondents. About 50.0 percent respondents are in the age group of 26-50 years followed by 27.8 percent are in 25 years and rest (22.2 percent) are in 51 years. Three-fifths (60.0 percent) of respondents are males and rest (40.0 percent) are females. Marital status of respondents reveals that over three-fifths (63.3 percent) are married followed by one-fifth (22.2 percent) are unmarried and rest (14.4 percent) widows. Majority (54.5 percent) of respondents belongs to Forward Caste as against 34.4 percent are backward caste and rest (11.1 percent) Scheduled caste. Seven-tenths (70.0 percent) of respondents are literates and rest (30.0 percent) are illiterates. About 72.2 percent are engaging in agriculture related activities and rest (27.8 percent) Non-agriculture activities. Four-fifths (80.0 percent) of respondents are access to Television and three-fifths (61.1 percent) are having basic amenities.



Awareness on transmission

Table-2: Percentage of respondents aware about transmission of corona virus

S. No	Mode of Transmission	Yes		No		Total	
		Number	Percent	Number	Percent	Number	Percent
1.	Infected Person's (mouth and nose)	52	57.7	38	42.2	90	100.0
2.	Close Contact (within 1 meter)	43	47.8	57	52.2	90	100.0
3.	Poorly Ventilated	35	38.9	55	61.1	90	100.0
4.	Touching surface of objects that contaminated	30	33.3	60	66.7	90	100.0

Source: Field Survey

Table-2 shows that the percentage of respondents aware about transmission of corona virus aspects is poor. About three-fifth (57.7 percent) of respondents are aware that corona virus transmits through infected person's (mouth and nose). Less than half (47.8 percent) are aware that corona virus spread through close contact (within 1 meter). Only about two-fifths (38.9 percent) of respondents aware that poorly ventilated is causes for spread of corona disease and only one-third (33.3 percent) aware that touching surface of objects that contaminated by virus causes for transmission of corona virus.

Symptoms of corona virus

Table-3: Percentage of respondents aware about symptoms of corona virus

S. No	Symptoms	Yes		No		Total	
		Number	Percent	Number	Percent	Number	Percent
1.	Most common symptoms	47	52.2	43	47.8	90	100.0
2.	Less common symptoms	32	35.6	58	64.4	90	100.0
3.	Serious symptoms	29	32.2	61	67.7	90.0	100.0

Source: Field Survey

Table-3 reveals that awareness among respondents regarding symptoms of corona virus is low. About 52.2 percent of respondents are aware about the most symptoms of corona virus. Moreover, only 35.6 percent of respondents are aware regarding less common symptoms and 32.2 percent serious are aware of serious symptoms of corona virus,

Prevention of corona virus

Table-4: Percentage of respondents aware about prevention methods of corona virus

S. No	Prevention of corona virus	Yes		No		Total	
		Number	Percent	Number	Percent	Number	Percent
1.	Wearing a mask	41	45.6	49	54.4	90	100.0
2.	Cleaning hands	30	33.3	60	66.6	90	100.0
3.	Maintaining safe distance	27	30.0	63	70.0	90	100.0
4.	Getting vaccinated	23	25.6	67	74.4	90	100.0

Source: Field Survey



Table-4 shows the only smaller percent of respondents are aware about prevention methods of corona virus. Less than half (45.6 percent) of aware that corona virus can be prevented through wearing mask followed by 33.3 percent said with cleaning your hands (sanitization), 30.0 percent expressed with maintain safe distance and only 25.6 percent aware that vaccination can prevents.

9. Community awareness programmes conducted (w.r.t the problems and their outcomes)

In the study area of three villages, one week awareness programmes are conducted to the general public with involvement of health medical persons, volunteers and Anganwadi teachers on corona virus related aspects with preventive measures like wearing mask and social distance. Youth, DWCR member and ward members are involved in the programme. Every day evening, public announcement made through loud speaker available at temple. Further, public announcement made through loud speaker with help of auto-rickshaw with the support of N.G.Os. People were asked to pass on information on corona virus information through chain system by taking safety preventive methods. Through Community awareness programmes, many rural people are benefited by gaining awareness on situation of corona virus in local areas, mode of transmission, symptoms and to practice three main preventive methods.

Intervention programmes taken up

To create awareness among respondents on corona related aspects, seven days intervention programmes are taken up with help of voluntaries, Asha worker, A.N.M and Anganwadi teacher through door to door campaign. Awareness is created through discussions, pamphlets distribution, mobile/tab and doubts are cleared. Awareness was created among the respondents on situation of corona virus in local areas, mode of transmission, symptoms and to practice three main preventive methods (sanitizing the hands, wearing of mask, practicing social distance) and importance of vaccination.

After Intervention

Intervention programmes aims to change the prevailing unsatisfactory conditions and try to gain acceptable situations. In this study, one week intervention programmes taken up in the study area has given fruitful results among people in general and respondents in particular.

Table-5: Percentage of respondents aware about transmission, symptoms and Prevention methods of corona virus after Intervention

S. No	Corona virus aspects	Aware		Not Aware		Total	
		Number	Percent	Number	Percent	Number	Percent
1.	Transmission	79	87.7	11	12.2	90	100.0
2.	Symptoms	75	83.3	15	16.7	90	100.0
3.	Prevention	68	75.6	12	24.4	90	100.0

Table-5 shows that after intervention programme, percentage of respondents aware about transmission, symptoms and prevention methods of corona virus after intervention has significantly improved. Nearly nine-tenths (87.7 percent) of respondents are awaking the transmission modes of corona virus. Over four-fifth (83.3 percent) awarded the various symptoms and about three-fourth (75.6 percent) of respondents are known the prevention methods. However, still considerable proportions of respondents are not aware about transmission, symptoms and prevention methods of corona virus even after



intervention. Hence, there is need for frequent dissemination of information on corona virus aspects through posters and volunteer door to door visits at leisure times.

Suggested Short-term and long term action plan for implementation

- Public Announcement on seriousness of corona virus
- Isolation of corona virus affected persons with medicine with prescription
- Intake of nutritious diet to improve immunity
- Medical awareness campus
- Formation of youth group to tackle in serious situations
- Creating awareness on importance of health and hygiene
- Transmission of corona virus information through S.H.Gs
- Involvement all stakeholders and N.G.Os

Conclusions and Recommendations

Awareness about transmission, systems and prevention of corona virus among the rural people is poor, while community awareness programmes has enhanced the awareness about the COVID-19 related aspects. The limitations of the study include limited sample size and covering small geographical limitation. The future scope is to increase the sample size and analyses other aspects such as apt treatment and home care knowledge to treat Covid infected patients. Further periodic educational interventions and training programmes on infection control can be implemented to overcome the current pandemic situation.

REFERENCES

1. Ashish Kumar Singh et al: COVID-19: Assessment of knowledge and awareness in Indian society, *J Public Aff.* 2020 Aug 27; e2354.doi: 10.1002/pa.2354 [Epub ahead of print].
2. Centers for Disease Control and Prevention. *Public Health Communicators: Get Your Community Ready: Interim guidance for COVID-19.* (2020). Available online <https://www.cdc.gov/healthcommunication/phcomm-get-your-community-ready.html> (accessed October 3, 2020).
3. Dennerlein JT, et al. An integrative total worker health framework for keeping workers safe and healthy during the COVID-19 pandemic. *Hum Factors.* (2020) 62:689–96. doi: 10.1177/0018720820932699, PubMed Abstract | CrossRef Full Text | Google Scholar.
4. Eskinder Wolka et al: Awareness Towards Corona Virus Disease (COVID-19) and Its Prevention Methods in Selected Sites in Wolaita Zone, Southern Ethiopia: A Quick, Exploratory, Operational Assessment, *Risk Management and Healthcare Policy*, Volume 2020:13 Pages 2301-2308, DOI <https://doi.org/10.2147/RMHP.S266292>
5. H Guo, Y Zhou, X Liu: The impact of the COVID-19 epidemic on the utilization of emergency dental services, *Journal of dental sciences*: 2020.
6. Ingraham C. *Why Many “Essential” Workers Get Paid So Little, According to experts.* The Washington Post (2020). Available online. (accessed April 15, 2020). at: <https://www.washingtonpost.com/business/2020/04/06/whydo-so-many-essential-workers-get-paid-so-little-heres-what-economistshave-say/>
7. K. Hema Shree, et al: Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma – a Systematic Review with Meta-Analysis, *Pathology & Oncology Research*, 25: 447-453, 2019.
8. Li Z-H, Zhang X-R et al: Knowledge, attitudes, and practices related to Coronavirus disease 2019 during the outbreak among workers in China: A large cross-sectional study. *PLoS Negl Trop Dis* 14(9): e0008584. <https://doi.org/10.1371/journal.pntd.0008584>.



9. M A Almutairi: Awareness about Middle East Respiratory syndrome-corona virus (MERS-CoV) among dental students in Riyadh, Saudi Arabia, AsiaNet Pakistan (Pvt) Ltd. Available, 36: 2016.
10. Manish Kaushik et al: Cross-sectional study on the role of public awareness in preventing the spread of COVID-19 outbreak in India *Postgraduate Medical Journal* Published Online First: 10 September 2020. doi: 10.1136/postgradmedj-2020-138349.
11. M Cascella, M Rajnik, A Cuomo, Features, evaluation and treatment coronavirus (COVID-19), *InStatPearls*: 2020.
12. Moran KR, Del Valle SY: A meta-analysis of the association between gender and protective behaviors in response to respiratory epidemics and pandemics. *PLoS ONE*. (2016) 11:e0164541. doi: 10.1371/journal.pone.0164541, PubMed Abstract | Google Scholar.
13. Parolin Z, Wimer C. Forecasting Estimates of Poverty during the COVID-19 Crisis. New York, NY: Center on Poverty and Social Policy at Columbia University; Columbia University (2020). Google Scholar.
14. Pranav D Modi : COVID-19 Awareness Among Healthcare Students and Professionals in Mumbai Metropolitan Region: A Questionnaire-Based Survey, *Cureus*, 12: 7514-7514, 2020.
15. Renyi Zhang et al: Identifying airborne transmission as the dominant route for the spread of COVID-19 - October 05, 2020.
16. Ruba M. Jaber et al: Awareness and perception of COVID-19 among the general population: A Middle Eastern survey, April 22, 2021, <https://doi.org/10.1371/journal.pone.0250461>
17. SindujaPalati, et al: Knowledge, Attitude and practice survey on the perspective of oral lesions and dental health in geriatric patients residing in old age homes, *Indian Journal of Dental Research*, 31: 22-22, 2020.
18. Steel Fisher GK, et al. Adoption of preventive behaviors in response to the 2009 H1N1 influenza pandemic: a multiethnic perspective. *Influenza Respiratory Viruses* (2015) 9:131–42. doi: 10.1111/irv.12306, PubMed Abstract | Cross Ref Full Text | Google Scholar.
19. Thomas Sigler: The socio-spatial determinants of COVID-19 diffusion: the impact of globalizations, settlement characteristics and population, *Globalization and Health*, volume-17, Article number: 56 (2021).
20. Tomer A, Kane JW. How to Protect Essential Workers during COVID-19. Washington, DC: Brookings Institution (2020).
21. WafaDhouib: The incubation period during the pandemic of COVID-19: a systematic review and meta-analysis, *Systematic Reviews* , volume 10, Article number: 101 (2021) .